

TRANSCRIPT BEGINS:

Dr. Michael Swift: Welcome to this chat session. I am Dr Swift from St. Olaf College.

(Commenting on his Presentation)

Dr. Michael Swift: This mosquito has covered the Midwest including Minnesota

Dr. Michael Swift: plants grown under elevated CO₂ have poorer quality

Dr. Michael Swift: higher temperatures are better for pathogens and increase the vulnerability period

Dr. Michael Swift: CO₂ is pumped out of these towers to raise the concentration.

Dr. Michael Swift: c₃ plant growth increases, but not C₄ plant growth

Dr. Michael Swift: trees are growing faster today and absorbing some CO₂

Dr. Michael Swift: Most of you watching this presentation will still be alive in 2020-2029

Dr. Michael Swift: what is viable for wheat now will become too hot for growing wheat in the future.

Dr. Michael Swift: Beech trees will only be found on mountain tops and much farther north than today
what will happen to those species dependent on these trees?

Dr. Michael Swift: These data are for parts of the US. Consider the effect on Chennai, Kerala, Bangladesh...

Dr. Michael Swift: India has a chance to lead the world in these areas...

Dr. Michael Swift: the path we follow is up to us -- people, politicians, businesses

Dr. Michael Swift: If a bank can use fuel cells for power, why not a new college or IT "campus"? Why depend on the grid -- such as it is.

Dr. Michael Swift: The marginal cost of adding solar cells does not add much to the price of a house -- and frees you from the electrical grid

Dr. Michael Swift: What a great idea! I drove in one in Bangalore -- Fantastic!

Dr. Michael Swift: Kerala is giving away compact fluorescent bulbs...

Dr. Michael Swift: Yesterday afternoon near Kanyakumari I saw hundreds of wind turbines...

Dr. Michael Swift: Linkoping, Sweden collects all human and animal waste and turns it into methane to run its trains, private cars, and to make electricity -- the city is carbon neutral and self-sufficient

Dr. Michael Swift: These are available in India...

Dr. Michael Swift: CO2 sequestration may be possible in the future, but it will be a high tech and expensive process

(Presentation Ends. Q & A begins.)

VALSA : HELLO dR sWIFT gOOD TO CHAT WITH YOU AFTER MEETING YOU HERE IN cHENNAI DURING UR VISIT TO OUR SCHOOL PSBBKKN

Dr. Michael Swift: Thank you. I saw your director's photo receiving her award...

VALSA : What can an ordinary person in a developing country like India do to reduce Global Warming?

Dr. Michael Swift: Agitate to have lights converted to LED technology, or at least compact fluorescents. Try to pressure your governments to use building codes and planning to utilize solar cells, solar hot water heating, etc. Turn off unnecessary lights as was done a few weeks ago in a world-wide dim lights day.

Haripriya: Will individual actions help in fighting climate change or do we require political action immediately? We don't see it happening too well as of now. How long IS NOT LATE?

Dr. Michael Swift: Unfortunately, the costs of global warming are spread over many people, but the primary producers of CO2 emissions are relatively few large important companies. I think that global warming will get quite a bit worse before the political will changes enough to do much about it. We all want AC, a motorcycle, or a car, etc. Only the government can mandate car size, fuel efficiency, etc. We in the US don't have a very good record of trying to reduce CO2 emissions

dominic: Destroying Nature and Promoting Developments, Is it the cause for Climate Change/?

Dr. Michael Swift: All of us are contributing to climate change because we all use electricity, drive motorized vehicles, etc. The primary cause of the destruction of nature is increasing population. India's population will double -- that is 2 billion plus by 2030 or so. All those people will use materials and put pressure on the environment.

Sumathy Ravi: Sir, Do you think IPCC has lost its credibility because of its revelations without scientific backup

Dr. Michael Swift: The recent "flap" over some misstatements in the latest IPCC report is a tempest in a teapot. The bottom line is still true -- human activities over the last 100 years or so have increased the CO2 concentration in the atmosphere which has caused global warming. The IPCC reports are the best available information about the state of the world's climate. The glaciers in the Himalayas will melt -- even if the date is not exactly known...

Earthday @ IIPM Chennai: if our per capita emissions are lower than the west, should'nt they act first?

Dr. Michael Swift: "per capita " is tricky -- India's per capita emissions are quite low even though the emissions of rich Indians are comparable to my emissions when I am at home. The per capita value in India is multiplied by 3 times more people than in the US. WE in the US need to decrease our per capita consumption of energy and materials. We should be able to do that without noticeably affecting our "comfort level". India could take the lead in decreasing its overall emissions by instituting "green" technologies and efficient methods before you are stuck with the types of wasteful systems we have. You can still increase individual comfort, etc. but do it in a green manner.

Mathan Ramesh: why the arguments between developed and developing countries is taking place in regard to climate change

Dr. Michael Swift: The "arguments" are due to the fact that the more-developed countries use a lot of energy and materials -- especially on a per capita basis because their population is relatively small. The less-developed countries emit a lot because their low per capita emission value is multiplied by a large number of people. Each side wants the other to reduce first.

Earthday @ IIPM Chennai: Is there any chance for Global Chilling or slow down the process of Global warming Effectively and efficiently...?

Dr. Michael Swift: As you could see from one of the slides, when global CO₂ decreases, global temperatures decrease. Unfortunately the CO₂ level today is higher than most of the warm periods over the last 400,000 years or so. Unless the CO₂ concentration decreases global cooling cannot happen.

Earthday @ IIPM Chennai: Do you think the COP (Conference of parties) Is going to make some change in the future about the bigger nations signing the deal...?

Dr. Michael Swift: Unfortunately, I don't think that much will be done by well-developed countries to reduce their emissions very rapidly. There are too many people unwilling to change their lifestyles because climate change doesn't affect them directly -- "just turn up the AC". The countries that will be hurt most have little political clout globally and little capacity to reduce emissions.

Robin 2: Can we grow more trees to absorb all the CO₂?

Dr. Michael Swift: Trees do absorb CO₂ while they are alive. When they die and decay the CO₂ is released into the atmosphere again. Planting trees is certainly a good thing to do for a lot of reasons, but it won't reduce the global CO₂ enough to slow or stop global warming by itself.

Sumathy Ravi: Is the concept of green buildings affordable for a common man?

Dr. Michael Swift: YES! Green design can be something as simple as roof overhangs that shade windows so houses stay cool. Green roofs are cheap and prevent heat buildup in buildings. You seldom need heating in Chennai, but insulation will help keep the buildings cool. Last week in Kerala I saw vents at the top of all the outside walls in houses so that warm air would be vented -- a simple green building method. Specify high efficiency appliances, use solar panels and solar hot water heating (the minimum temp these days in Chennai is 26 or 27C -- plenty warm enough for a bath...

tgV: I read about Artificial trees that were developed to capture CO₂, Is there a technology like that and are they more efficient ?

Dr. Michael Swift: "Artificial trees" are just machines that look vaguely tree-like. At the present time there is no good mechanism to remove CO₂ from the atmosphere, and no good place to put it once it is removed. This is a "hard" technological fix for our problems that will certainly be tried, but limiting emissions in countless small ways is a much more viable method.

kate8: You had said Linkoping, Sweden collects all human and animal waste and turns it into methane to run its trains, private cars, and to make electricity -- the city is carbon neutral and self-sufficient - India with such a huge population would definitely benefit from a similar thing. However, won't the atmosphere stink?

Dr. Michael Swift: Probably not any more than the Adyar river stinks now and almost certainly less. These systems collect the waste in pipes instead of the canals seen here in India. The anaerobic digester is closed so no smells are released. Only the methane comes out the pipe at the top and that is burned to make electricity

anand 2: We are getting a feel that enough awareness is in place about the effects of climate change. But still people look at it as something for the polar bears to bother about. How to change this mood??

Dr. Michael Swift: It is relatively easy to get people to pay attention to individual species that are charismatic -- pandas, polar bears, tigers, etc. unfortunately the increased temperatures in Chennai and Tamil Nadu, the increased severity of storm events, the changes in timing and intensity of the monsoons

are pretty variable -- so that it is easy to say it is just a wet year or a hot year, etc. BUT, people will have to pay attention when they, themselves, are affected.

themselves, are affected.

Moderator (Brindha): Thank you Dr. Swift for your valuable comment and advice.

Robin: Thank You Dr. Swift

Dr. Michael Swift: Thank you for your questions. I will be returning to the US in a few weeks and will be trying to decrease my personal carbon footprint. I have been impressed by the efforts to save energy, save water, and live responsibly that I read about every day in the newspaper. I have high hopes that India will continue to increase the living standards of all its citizens by taking advantage of the technology currently available and soon-to-be-available so that it will limit its greenhouse gas emissions. At home, we have a long way to go, but I am hopeful that we will begin to make strides in the same direction.

tgV: thank you Dr. swift for your comments

Moderator (Brindha): Dr. Swift's presentation and the chat transcript will be available here as well as on our website <http://www.chennai.usconsulate.gov>

Moderator (Brindha): Thank you for your participation. To stay connected, visit our Facebook page at www.facebook.com/chennai.usconsulate.

Dr. Michael Swift: If you are interested in studying in the US, there are Fulbright-Nehru supported opportunities for school teachers, college professors, people from many fields including NGOs, and post-doctoral study and senior researcher study. Information on all these programs is on the US-India Education Foundation website (www.usief.org.in).

END OF TRANSCRIPT